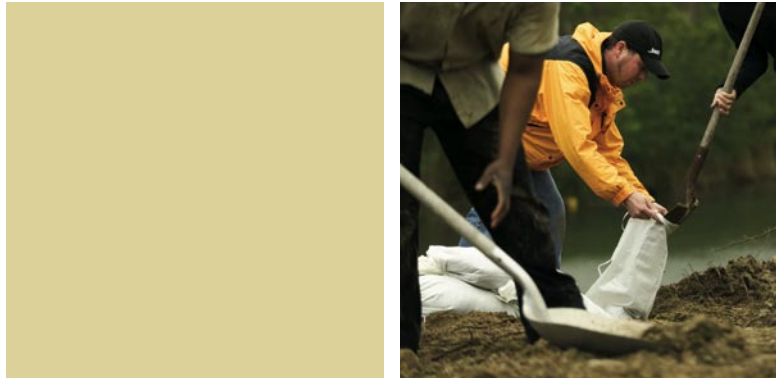


# PR1500 Professional Series Two-Way Radios and Accessories

Strengthening The Link: Two-Way Radios for a Stronger,  
More Secure Community



# PR1500 Professional Series

## Two-Way Radios and Accessories

### **Welcome to the Community!**

In large and small communities alike, people rely on police and fire departments to keep their families safe and their properties secure. In times of emergency and severe weather, they count on critical first responders and public utility workers in crisis situations.

It's specifically for these safety professionals that Motorola has designed the PR1500 Professional Series two-way radio. The PR1500 offers a higher level of durability, range and audio sophistication for those who need reliable communications in the toughest of conditions.

This brochure will detail all the performance features of the PR1500 and its many practical accessories. Your Motorola Authorized Dealer or Representative can give you all the information you need to help you choose the right products and accessories for your organization.





## Communities Linked for Homeland Security

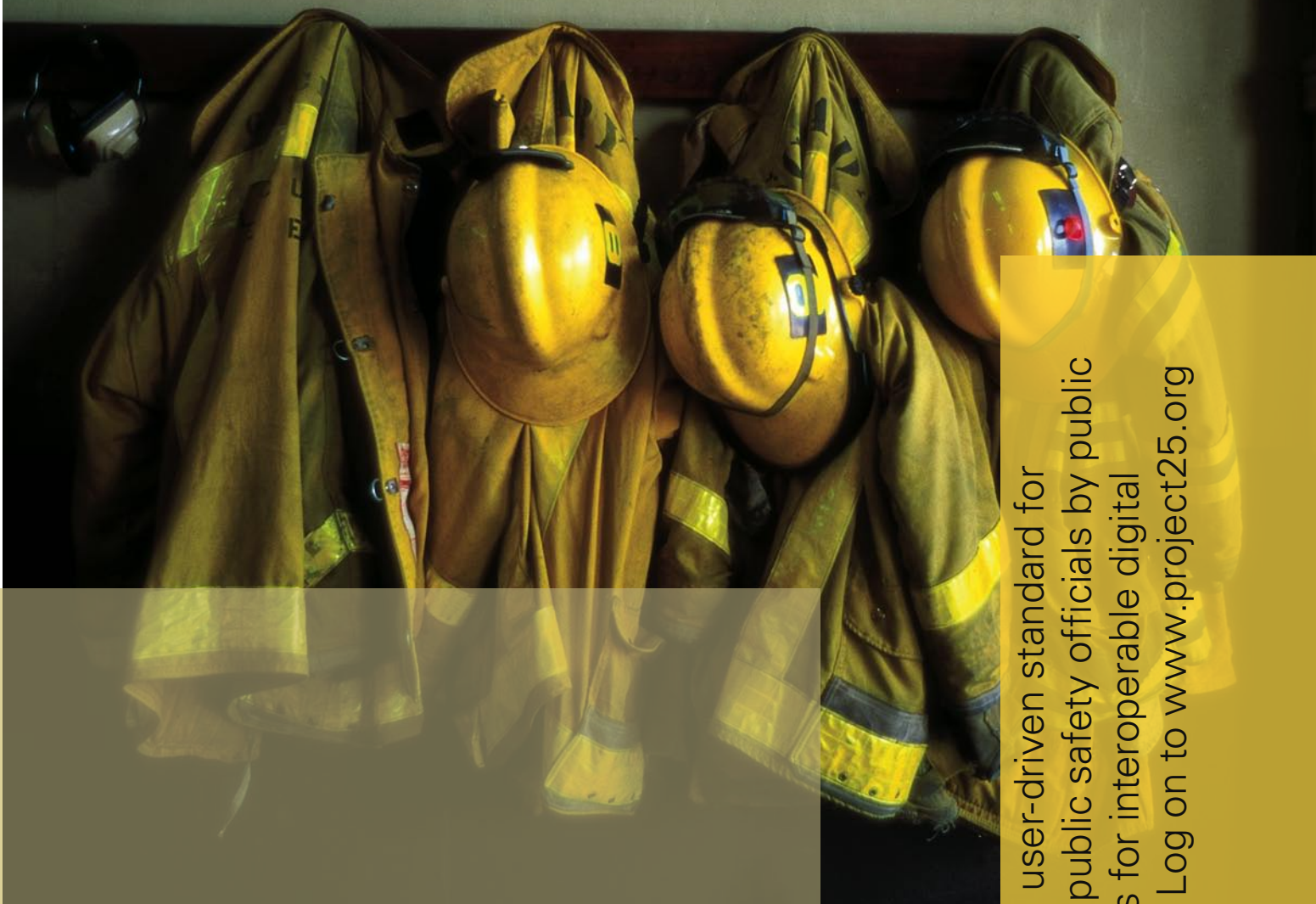
Wireless communication serves as the lifeblood of community security and responsiveness. But what happens when a fire department needs a back-up battalion from the next town as well as an emergency response team from another county? They all have radios, but they can't always communicate due to incompatibility.

**The technology that links a community shouldn't stop at the community's border.**

### **Grant Eligible**

You are eligible to apply for Homeland Security dollars with the purchase of PR1500 radios. We suggest network operators log on to the Homeland Security website ([www.dhs.gov](http://www.dhs.gov)). Go to the First Responders section, then click on Grants to get more information. Your Motorola Authorized Dealer or Representative can alert you on the availability of the P25 upgrade software.

# Expandable



## **PR1500: A bridge to P25 interoperability**

The Motorola PR1500 spans the communication needs of the local community on a day-to-day basis as well as the needs of the broader area during times of crisis. With a single software upgrade, the PR1500 becomes P25 interoperable, ready to communicate outside your network during times of crisis. You can easily communicate with other agencies and response teams, share vital information, and coordinate life-saving response efforts.

Thanks to this capability, communities purchasing new PR1500 radios can apply for and use Homeland Security funding grants.

**Did you know?** Project 25 (P25) is a user-driven standard for interoperability. It was developed for public safety officials by public safety officials and provides the basis for interoperable digital radio voice and data communication. Log on to [www.project25.org](http://www.project25.org) for more information.

# Reliable



## What sets the PR1500 apart

Motorola has taken all the features you expect in a two-way radio and brought them to the next level with the PR1500. Experienced users will appreciate many of its enhancements and design features. Specifically, the PR1500:

- Offers a rich, full audio quality which your dealer can customize to meet individual preferences and listening environment.
- Operates in a wide geographic area due to its significantly improved reception range and signal receptivity.
- Has been ergonomically designed to handle easily, with bigger knobs and controls that can be operated even when wearing heavy gloves.
- Meets strict U.S. military specifications and Motorola standards for durability and reliability.
- Is backed by Motorola service and a two-year warranty.
- Is P25 Conventional Upgradeable. See cover fold for information.

**Did you know?** PR Series radios operate at temperatures as low as -30° C (-22° F).

# PR1500

A higher level of performance  
for tough conditions



## 32 Channels

**1– Large Raised Channel and On/Off Volume Knobs**  
Easy to operate when wearing gloves

**2– 3 Position Concentric Switch**  
Allows customization of radio features for ease of use

**3– Programmable Emergency Button**  
Alerts dispatcher in an emergency situation

**4– Sealed Accessory Connector**  
Customize audio solutions to meet your needs.  
Backward compatible with existing accessories

**5– Enhanced Audio Features**  
Noise reduction software and Audio Gain Control  
(CPS Programmable) allow audio customization to  
meet your needs

**Adjustable Power Levels**  
Preserves battery life

**Priority/Dynamic Priority Channel Scan**  
Frequently scan higher priority channels.  
Easily add or delete scan list members

**Monitor/Permanent Monitor**  
Allows continuous channel monitoring

**6– 3 Programmable Side Buttons and Large Textured  
Push-To-Talk Button**  
Easy access to favorite features. Easy to operate when  
wearing gloves and provides good tactile response

**IMPRES™ Energy System**  
Battery, charging and reconditioning system that  
automates battery maintenance, optimizes cycle life,  
and maximizes talktime

**P25 Conventional Upgradeable**

## PR1500 Additional Features

### MDC1200 Signaling and Quik-Call II™

Send and receive information in a variety of  
ways including:

- **Push-to-Talk ID (Encode)** Identify your outgoing calls
- **Selective Call (Decode)** Receive a call from a specific group or individual

- **Call Alert (Decode)** Receive alerts of incoming calls when you're a short distance from your radio
- **Radio Check (Decode)** Lets others check your radio status
- **Emergency (Encode)** Alerts dispatcher in urgent situations
- **Selective Radio Inhibit (Decode)** Allows system owner to disable stolen or missing radios

# Advanced



## PR1500 Programmable Features

Choose up to 12.

Top features include:

### **Emergency**

Alerts dispatcher in urgent situations

### **Repeater Talkaround**

Unit-to-unit communication, bypassing the repeater

### **Channel Scan**

Monitors the selected channel for any activity

### **Dynamic Priority**

Add a priority channel to the scan list

### **Volume Set**

Sets preferred volume level for radio speaker

### **Nuisance Channel Delete**

Temporarily deletes a specific channel from your scan mode if you no longer want to hear activity on that channel

## PR1500 Standard Package

**IMPRES™ NiMH 1850 mAh Battery**

**IMPRES Single Unit Rapid Charger**

**VHF or UHF Antenna**

**2.25" Belt Clip**

**Remote Speaker Microphone Adapter**

**Accessory Connector Dust Cover**

**User Guide CD**

**2-Year Standard Warranty**

**Did you know?** The PR1500 has been approved intrinsically safe by Factory Mutual (FM) and by the Canadian Standard Association when ordered initially with the appropriate FM option.

Classes I, II, and III, Division 1, Groups C,D,E,F and G.

# Indispensable



## Accessories for the PR1500: Getting the most from your radio

Motorola Original and Motorola Certified Accessories expand the capabilities of your radio and create a truly customized communication solution for your organization. Motorola accessories are system-tested with Motorola radios to ensure optimum performance. Your Motorola Authorized Dealer or Representative can assist you in selecting the right accessories to meet your needs. In addition to the accessories on the opposite page, Motorola offers a variety of antennas including Wideband Helical and Dipole options, UHF Helical and UHF Whip antennas. Contact us for complete accessory availability.



**Motorola Original** – When an accessory is purchased with this seal, it certifies a Motorola Original<sup>®</sup> Accessory. These high-quality accessories allow your customers to properly charge and safely transport the PR Professional Series radios. Motorola Original Accessories carry a one-year limited warranty.

# PR1500 Accessories

**Did you know?** The majority of HT1000 accessories are backwards compatible with the PR1500, making it an easy transition for current customers.



### Traditional Batteries and Chargers

Different battery chemistries to best suit your needs as well as single and multi-unit charger options

Product featured – NTN9858C

### IMPRES™ Batteries and Chargers

Offer superior, long-lasting performance with automated maintenance

Product featured – WLPN4130A

### Carry Accessories

Keep the radio secure and safe from the elements wherever you go

Product featured – NNTN4115A

### Headsets

For hands-free operation in a variety of models to fit your needs and preferences

Product featured – BDN6645A

### Remote Speaker Microphones

Talk or listen without removing the radio from belt or case

Product featured – RMN5038A

### Ear Microphones

Compact, with tremendous audio clarity for hands-free communication

Product featured – BDN6780A

### CommPort™ Integrated System

Combines ear microphone with receiver so you can speak in a whisper and hear in a noisy crowd

Product featured – NTN1624A

### Surveillance Kits

Allow you to discreetly receive and transmit communications

Product featured – BDN6664A



**Did you know?** IMPRES™ chargers can also charge compatible non-IMPRES batteries.



## The IMPRES™ Smart Energy System. More than a smart battery – it's practically brilliant.

Motorola's IMPRES™ Smart Energy System adjusts the reconditioning frequency to match individual battery usage patterns. No longer will you have to manually track and record battery usage. With automatic and adaptive reconditioning, you eliminate guesswork and the time wasted reconditioning batteries prematurely. The IMPRES energy system automates battery maintenance, optimizes cycle life and maximizes talk time so your radio system will be charged and ready to go...whenever you need it.

# Innovative



Batteries and chargers that work together for optimal battery performance

### **IMPRES™ Batteries**

NiMH or Li-ion chemistries which offer superior life with automated maintenance. Virtually no capacity loss due to memory effect; no need to run the battery down completely before charging.

### **IMPRES Chargers**

Single and multi-unit chargers, customizable to your particular charging habits and needs to optimize battery performance. Available with a two-line display module that communicates important information in real time such as current battery status, battery capacity and more.

IMPRES chargers can also charge compatible non-IMPRES batteries.

# PR1500

## Specifications



### Exceptional Durability

There's a reason why Motorola two-way radios are so rugged and reliable. Each radio undergoes rigorous testing in the design process, so your customers can be assured Motorola radios will hold up under demanding conditions. These tests are designed to simulate very harsh environments, including:

GENERAL SPECIFICATIONS			
	VHF 136-174 MHz	UHF R1 380-470 MHz	UHF R2 450-520 MHz
Channel Capacity	32	32	32
Model Numbers	AAH79KDC9PW5_N	AAH79QDC9PW5_N	AAH79SDC9PW5_N
FCC Designation	AZ489FT3807	AZ489FT4865	AZ489FT4866
FCC Emissions Designators	11K0F3E, 16K0F3E, 8K10F1E, 8K10F1D		
Power Supply	Rechargeable nickel-cadmium or IMPRES nickel-metal hydride battery		
Dimensions (HxVxL)	6.00" x 2.30" x 1.50"		
Weight			
with NiCD Battery		19.85 oz	
with FM NiCD Battery		19.85 oz	
with IMPRES NiMH Battery		20.63 oz	
with FM IMPRES NiMH Battery		20.63 oz	
Average Battery Life @ 5-5-90 Duty Cycle*		High Power (5W)	
with High Capacity NiCD		8 hours	
with High Capacity NiCD FM		8 hours	
with High Capacity IMPRES NiMH		10 hours	
with High Capacity IMPRES NiMH FM		10 hours	

\* 5% receive, 5% transmit, 90% standby

TRANSMITTER			
TYPICAL PERFORMANCE SPECIFICATIONS			
	VHF	UHF R1	UHF R2
Frequency Range	136-174 MHz	380-470 MHz	450-520 MHz
Channel Spacing	12.5/25 kHz	12.5/25 kHz	12.5/25 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power Adj*	1 to 5 W	1 to 5 W	1 to 5 W
Frequency Stability* (-30°C to +60°C; +25°C Ref.)	±0.00025%	±0.0002%	±0.0002%
Modulation Limiting*			
25 kHz channel	±5.0 kHz	±5.0 kHz	±5.0 kHz
NPSPAC channel	N/A	N/A	N/A
12.5 kHz channel	±2.5 kHz	±2.5 kHz	±2.5 kHz
Emissions* (Conducted & Radiated)	-65 dBc	-70 dBc	-70 dBc
Audio Response* (6 dB/Octave Pre-emphasis from 300 to 3000 Hz)	+1, -3 dB	+1, -3 dB	+1, -3 dB
FM Hum & Noise Radio*			
25 kHz	-46 dB	-45 dB	-45 dB
12.5 kHz	-42 dB	-40 dB	-40 dB
Audio Distortion*	1%	2.0%	2.0%

\* Measured in the analog mode per TIA/EIA 603. Specifications subject to change without notice.

**Rain** – steady rainfall and wind for 30 minutes on every surface. Ideal for agriculture, light construction, utility and public administration personnel who work outdoors in any type of weather.

**Salt Fog** – 48 hours of exposure to an atomized salt solution. Hospitality staff, utility workers and public administration personnel working near oceans or around winter salt applications will appreciate our radios’ resistance to salt corrosion.

**Dust** – 6 hours of blowing dust on all surfaces. Ideal for agriculture, light construction, utility and public administration workers who are exposed to a variety of dusty environments.

**Vibration** – up to 9 hours of exposure to vibration that simulates the rigors that a radio could undergo while being transported. Because these portables are carried by the radio user, it’s important they hold up to extensive vibration tests. Light construction and industrial workers, agriculture, utility and public administration staff expect a radio to withstand any vibrations.

**Shock** – 18 shocks with a minimum G force of 40 Gs each makes these portables ideal for light construction and light industrial, agriculture, public administration, utilities and anyone who has ever dropped a radio.

#### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-30°C / +60°C
Storage Temperature	-40°C / +85°C
Humidity	Per MIL-STD
ESD	IEC 801-2KV
Water Intrusion	IP54, MIL-STD

#### FACTORY MUTUAL APPROVALS

The PR1500 is Factory Mutual approved and Canadian Standard Association approved as intrinsically safe for use in Classes I, II, and III, Division 1, Groups C, D, E, F and G, as well as non-incendive use in Class I, Division 2, Groups A, B, C and D on models ordered with the Factory Mutual option, and battery.

#### Accelerated Life Test

Motorola’s Accelerated Life Test (ALT) is a developmental process of rigorous laboratory testing that simulates years of field use. Motorola has a firm commitment to quality and reliability. These radios have been designed, manufactured and tested to achieve high levels of component and workmanship quality. Motorola radios are designed to minimize costly repairs and downtime.

#### RECEIVER

##### TYPICAL PERFORMANCE SPECIFICATIONS

	VHF	UHF R1	UHF R2
Frequency Range	136-174 MHz	380-470 MHz	450-520 MHz
Channel Spacing	12.5/25 kHz	12.5/25 kHz	12.5/25 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit
Audio Output Power at Rated*	500 mW	500 mW	500 mW
Frequency Stability* (-30°C to +60°C; +25°C Ref.)	±0.00025%	±0.0002%	±0.0002%
Analog Sensitivity*			
12 dB SINAD	.25 µV	.25 µV	.25 µV
Selectivity*			
25 kHz chnl	-80 dB	-73 dB	-73 dB
12.5 kHz chnl	-63 dB	-63 dB	-63 dB
Intermodulation*	-78 dB	-73 dB	-75 dB
Spurious Rejection*	-80 dB	-75 dB	-75 dB
FM Hum and Noise*			
25 kHz	-52 dB	-47 dB	-50 dB
12.5 kHz	-40 dB	-40 dB	-47 dB
Audio Distortion*	1%	2.0%	2.0%

\* Measured in the analog mode per TIA/EIA 603. Specifications subject to change without notice.

#### PORTABLE MILITARY STANDARDS 810 C, D, E & F

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F	
	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Hot
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1
Temperature Shock	503.1	I*	503.2	I/A1C3	503.3	I/A1C3	503.4	I
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	I*
Salt Fog	509.1	I*	509.2	I*	509.3	I*	509.4	I*
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I
Vibration	514.2	VIII/F, Curve-W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24
Shock	516.2	I, II	516.3	I, IV	516.4	I/IV	516.5	I, IV

\* Military Standards specify a single procedure for this test.

For more information, please contact:



**MOTOROLA**

**Motorola, Inc.**

1313 E. Algonquin Road  
Schaumburg, Illinois 60196 U.S.A.  
1-800-422-4210

[www.motorola.com](http://www.motorola.com)

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Rev. 2  
05/06